

TABLE OF CONTENTS

DISCLAIMER	ii
ACKNOWLEDGMENTS OF THE BULL TROUT RECOVERY PLAN	iii
EXECUTIVE SUMMARY FOR THE BULL TROUT RECOVERY PLAN ..	iv
TABLE OF CONTENTS	ix
WHAT IS A RECOVERY PLAN?	1
DEVELOPMENT AND ORGANIZATION AND ORGANIZATION OF THE BULL TROUT RECOVERY PLAN	2
INTRODUCTION	6
General Description and Life History	8
Essential Habitat Characteristics	9
Aquatic Community	12
Reasons for Decline	13
Conservation Measures	28
STRATEGY FOR RECOVERY	43
Habitat and Population Terminology	47
Recovery goals and objectives	49
Recovery Criteria	49
Distinct Population Segment Structure and Population Units	52
The Role of Recovery Units in Survival and Recovery of Bull Trout ..	53
The Role of Artificial Propagation and Transplantation in Bull Trout Recovery	54
The Role of Fire and Aquatic Habitats in Bull Trout Recovery	55
The Role of the Mainstem Columbia and Snake Rivers	56
Recovery Monitoring and Evaluation	58
Bull Trout Recovery and Delisting Determinations	60
ACTIONS NEEDED TO INITIATE RECOVERY	62
Recovery Measures Narrative	62
IMPLEMENTATION SCHEDULE	71
REFERENCES CITED	72
APPENDIX 1: GLOSSARY	96

APPENDIX 2: BULL TROUT PROTECTION AND RECOVERY GUIDANCE FOR FEDERAL LANDS	108
APPENDIX 3: EFFECTIVE POPULATION SIZE AND RECOVERY PLANNING	134
APPENDIX 4: LIST OF CHAPTERS	137

TABLES

Table 1. Bull trout recovery units by distinct population segment and State(s). .	3
Table 2. Relationship of Recovery Actions and Criteria to Threats and Listing Factors to Bull Trout Recovery Planning.	44

FIGURES

Figure 1. Bull trout recovery units in the United States..	3
Figure 2. Estimated historical range of bull trout in the coterminous United States.	6
Figure 3. Bull trout sub populations.	8